Workflow Term Paper BAN440

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# Important dates

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| **Event** | **Date** |
| Work started | 18.03.2025 |
| Group presentation with feedback | 27.03.2025 |
| Complete project ready for proofing | 07.04.2025 |
| Final submission deadline | 25.04.2025 |

# Gathering and cleaning data

Agder

Akershus

Buskerud – 20 vinmonompolet (180324 willi manuelt)

Finnmark - 10 vinmonompolet (180324 willi manuelt)

Innlandet - 33 vinmonompolet (180324 willi manuelt)

Møre of romsdal - 22 vinmonompolet (180324 willi manuelt)

Nordland – 23 vinmonompolet (180324 willi manuelt)

Oslo – 35 vinmonompolet (180324 willi manuelt)

Rogaland – 24 vinmonompolet (180324 willi manuelt)

Telemark – 13 vinmonompolet (180324 willi manuelt)

Troms - 13 vinmonompolet (180324 willi manuelt)

Trøndelag 34 vinmonompolet (180324 willi manuelt)

Vestfold – 13 vinmonompolet (180324 willi manuelt)

Vestland – 44 vinmonompolet (180324 willi manuelt)

Østfold -11 vinmonompolet (180324 willi manuelt)

As per 18.03 we have a complete data set with information on store names, sales in liters, position (coordinates), municipality number + more.

## Vinmonopolet

Retrieved from:

## Population data

Retrieved from:

## Other data

# Model justification

A screenshot of a computer

AI-generated content may be incorrect.

# Alternative approaches

**1. Spatial Competition & Cross-Border Effects**

**Question**: *"How do proximity to Sweden and local market characteristics influence optimal Vinmonopolet store placement in border regions?"*  
**Approach**:

* Use a **differences-in-differences framework** (as in[6](https://openaccess.nhh.no/nhh-xmlui/bitstream/handle/11250/3133708/masterthesis.pdf?sequence=1&isAllowed=y)) to compare sales performance of stores near/away from the Swedish border pre/post COVID-19 border closures.
* Integrate cross-border shopping elasticity (up to 48% sales loss near Sweden[6](https://openaccess.nhh.no/nhh-xmlui/bitstream/handle/11250/3133708/masterthesis.pdf?sequence=1&isAllowed=y)) into a **Hotelling-style spatial model** to identify minimum viable market sizes.

# Model implementation with R

As per now we have a data set sufficient to estimate a Bresnahan & Reiss model, unless feedback from professors tells us otherwise.

After estimating a model (get a sounder background on the type of model) with only s (population) as the independent variable explaining the number of stores in a municipality. This model is likely not robust enough to use as we get very high thresholds for more than 2 stores. Therefore, we want new variables that possibly can add more depth to the analysis:

We already have

* Sales volume
* Population
* Area
* Density (Population/Area)

We want to add

* Mean income per person
* Grensehandel (people that go on day trips abroad to shop for alcohol)
  + <https://www.ssb.no/varehandel-og-tjenesteyting/varehandel/statistikk/grensehandel>
* Distance from municipality center to closest store
* Age distribution
* Tourism
  + <https://www.ssb.no/statbank/table/12898/>
  + Could only find data on amount of sleepovers with a lot of missing data for some municipalities. It is the best we can do…

# Report